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ABSTRACT

This evaluation used ethnographic data collection methods to discover why IBM's PALS (Principle of the Alphabet Literacy System met with different degrees of success at the two Massachusetts pilot sites after 2 years of operation: the North Central Correctional Institute (NCCI) in Gardner, and the Brightwood Branch Library in Springfield. Three profiles are included in this report: (1) PALS itself; (2) the application of PALS at NCCI (including its limitations, outcomes and future directions); and (3) the application of PALS at Brightwood (including its future directions and a profile of its learner-centered Read/Write/Now program). These profiles describe the teaching philosophies of the host organization and interpret the data collected from the program staff and program materials during a one-day visit to each site. Several months after the two site visits, follow-up telephone interviews were conducted to provide updated information about key PALS features. The conclusions discuss the success or lack of success of PALS both within the program context and as a system for teaching adult literacy. Recommendations to IBM for improving PALS and to the Board of Library Commissioners for future funding and evaluation of the pilot programs conclude the report. Appended materials listed in the table of contents are not included in this document. (3 tables) (MAB)

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An Evaluation of the IBM PALS Program for the Massachusetts Board of Library Commissioners

Prepared by

EVALUATION RESEARCH,INC.
1589 CENTRE STREET
NEWTON HIGHLANDS, MA 02161
(617) 527-6081

Laura Sperazi, Director

March 1990

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- Brightwood End-of-Cycle Evaluation Forms

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We thank all those who participated in this evaluation, especially the adult learners and the staff of the PALS programs at the North Central Correctional Institute, Gardner, Massachusetts and the Brightwood Branch Library, Springfield, Massachusetts.

BACKGROUND AND PURPOSE OF THE PALS EVALUATION

In the winter of 1986 the Massachusetts Board of Library Commissioners responded to increasing national and local concern about the extent of adult illiteracy by deciding to sponsor adult literacy programs in two carefully selected libraries in the Commonwealth through the Library Services Construction Act. A senior staff member in the office of the Massachusetts Board of Library Commissioners had witnessed a demonstration of IBM's "Principle of the Alphabet Literacy System" or PALS in Atlanta and was inspired to recommend the new system for the pilot library programs. PALS was designed to rapidly increase the English reading and writing skills of adolescents and adults in need of basic literacy skills training through an innovative, interactive videodisc system. It was not administratively heavy-- in fact, it required hiring only one teacher-manager for up to sixteen learners. And learners would reap the extra benefit of becoming computer literate as they mastered basic English language literacy. It was a system that seemed to be, and was sold as, particularly well suited to the needs of community based programs.

In July 1989, the Massachusetts Board of Library Commissioners contracted with Evaluation Research, Inc. to conduct an evaluation of the two PALS programs which it had funded two years before. The two sites where PALS was installed are the North Central Correctional Institute (NCCI), a medium security prison for men in Gardner, Massachusetts and the Brightwood Branch Library of the Springfield, Massachusetts City Library System (Brightwood). The two programs had noticeably different experiences using PALS. NCCI found that PALS was fairly successful in engaging inmates in the learning process. Brightwood found that PALS did not address the needs of adult learners in the community library setting. The purpose of the evaluation is, therefore, to determine why PALS achieves a measure of success in one setting and not another.

These library sponsored and library funded literacy programs are important for two reasons. First, they are taking important steps toward reestablishing a central role for libraries in adult education. Second, they are exploring program designs that best meet the personal and educational needs of modern adults unconstrained by the norms and procedures of the traditional adult education system. The fact that the library is a natural learning environment and an historically active one for adults (in the earlier part of this century serving as a site for English as a Second Language and citizenship classes) does not necessarily imply, however, that librarians and other library staff are experts in the delivery of adult education services. As one librarian explained: "Handling books all day does not make a librarian a reading specialist." Library staff need to be educated themselves in the philosophies and methods which create effective adult literacy programs. Therefore, the evaluation will also address the specific appeal and appropriateness of PALS in the library setting.

EVALUATION METHODOLOGY

This evaluation employs ethnograghic data collection methods in the service of "solving the problem" of why PALS met with different degrees of success at the two pilot sites. In the process of conducting this problem-solving evaluation, it was necessary to include PALS itself as an object of study. Thus, there are three profiles included in this report: 1.) PALS itself; 2.) the application of PALS at NCCI; and 3.) the application of PALS at Brightwood. The profiles of the programs place PALS within the particular institutional structures and teaching philosophies of the host organizations. These profiles describe and interpret the data collected from program staff and from program materials on the dates of the two site visits. The NCCI site visit was conducted on October 2, 1989, the Brightwood site visit was conducted on August 1, 1989. PALS itself was described according to the materials available to NCCI and Brightwood PALS staff, and therefore to the evaluation staff, on the dates of the site visits as well. Telephone interviews with IBM PALS representatives in early March 1990 provided important information on how key features of PALS have been updated in approximately the last nine months. These changes in PALS are described in the Conclusions section of this report because they are relevant to understanding both the application of PALS at NCCI and Brightwood at an earlier time and the recommendations for future use of PALS. The Conclusions section of the report interprets the site data and the PALS data together, setting the stage for the Recommendations which follow.

Several methods of data collection were employed during a one day site visit to each program, including: 1.) structured interviews with program personnel and with learners; 2.) observation of classes; and 3.) review of program related materials, including: PALS introductory videotape; PALS videodiscs and Teacher's Manual; other related teacher-prepared curricula; teachers notes; assessment procedures; correspondence and annual reports. (A copy of the evaluation protocol is included in Appendix A.)

In addition the evaluator: 1.) attended the October 1989 meeting of the New York Chapter of the International Interactive Communications Society; 2.) as a participant observer, queried an IBM PALS representative at a PALS booth at a national literacy conference about the use of PALS; 3.) conducted a two-part telephone interview with IBM PALS representatives about PALS itself and its different applications at the two program sites; and 4.) conducted background interviews by phone and in person with both literacy and videodisc/computer experts.

The evaluation is divided into four parts:
1.) Description of PALS
2.) Description of the programs at NCCI and Brightwood
3.) Conclusions
4.) Recommendations

DESCRIPTION OF PALS

PALS is an interactive instructional computer program designed to teach functionally illiterate adolescents and adults how to write and read. Developed by Dr. John Henry Martin for the IBM Corporation, PALS is based on Dr. Martin's earlier work "Writing to Read", which is both a book and an IBM instructional program for teaching children how to write and read. The fundamental principle of Dr. Martin's method is that the learner can write anything he or she can say. Thus PALS teaches writing and reading phonemically, i.e. by teaching the alphabet symbols associated with forty-four basic English language sounds which combine to make words. As the learner masters the basic phonemes (sounds) and graphemes (the graphic representation of those sounds), he or she can effectively write anything that can be spoken. As an interim process, PALS teaches phonemic spelling, spelling words as they sound by using a consistent phonemic spelling system. Phonemic spelling is the precursor to spelling difficult English language vocabulary correctly and to mastering English language literacy.

PALS is a three phase program. Phases one and two, "Invention of the Alphabet" and "Work Journals" take place at the InfoWindow Station-- a monitor, headphone, keyboard and videodisc drive system which is equipped with six double sided interactive videodiscs and compatible work journal designed to teach the sounds and letters of the alphabet and the principles of phonemic spelling. A fictional account of the invention of the written alphabet in ancient Sumeria rendered in comic book style is the narrative base of the program. Sight, sound and touch are all involved in the PALS interactive videodisc system. The learner proceeds at his or her own pace with the program by "interacting" with a touch sensitive screen in response to visual and aural cues. The audio-tactile-interactive aspect of the system is game-like and therefore promotes learning as fun. Learners are paired at the videodisc monitor and are encouraged to observe and tutor each other. The mutual support of paired learners seated in front of the interactive monitor is also an aspect of "interactivity".

Throughout phases one and two, learners are also learning to touch type at the Word Processing Station and on typewriters. PALS supplements the interactive instruction with typing and word processing instruction in order to teach writing as a machine skill, preparing the learner for employment either using computer skills directly on the job or using the computer to write a resume or other employment related documents. Thus PALS proposes to prepare learners for work.

Phase three of the PALS program is "Personal Writing" where learners apply the phonemic principles they are beginning to master to their own sentences and paragraphs. While the first exercise for learners in phase three is simply dictating and then transcribing a brief bio-sketch, the expectation is that, by the end of this phase, learners will be writing fairly fluently on topics of their own choice, composing resumes and filling out job application forms. If the guiding principle of phases one and two is "Anything you can say, you can write", the

guiding principle of phase three is "Nothing worth writing can be written in one try". Phase three outlines the steps of the writing process and directs the teacher-manager to guide learners through them. The steps of the PALS writing process demystify the act of writing by breaking it down into its component parts. The steps of the PALS writing process are prewriting, drafting, peer review, revising, editing and then publishing.

PALS is a twenty week program. Phase one runs from approximately week one to five; phase two from approximately week six to ten; and phase three from approximately week eleven to twenty. Class time is one hour per day, five days a week. In phases one and two learners spend one half hour at the InfoWindow and one half hour at the typewriter or word processor. PALS is targeted to adult learners reading below the fifth grade level with normal intelligence and who do not suffer from learning disabilities. One teacher-manager is paired with no more than sixteen learners for each twenty week cycle. PALS stresses that it is not necessary for the teacher-manager to have experience teaching basic skills to adults. The Teacher's Manual describes the "twenty vital practices" which are the prescribed management procedures for implementing PALS. The teacher-manager conducts the class by simply following these procedures. The Teacher's Manual also includes directions for using the videodisc system, implementing the writing process, assessing learner progress, etc., in standard computer handbook format.

The Test of Adult Basic Education (TABE) was suggested by IBM as the standardized reading achievement test to be used by the two programs in this evaluation. The PALS Teacher's Manual recommends the use of any standardized reading test in pre and post-test forms for assessing learner progress. In addition to the standardized test, it recommends the pre and post-test use of the IBM prepared "Student Data Sheet" and "Functional Literacy Test" along with other formative evaluation procedures. The expectation that use of PALS by adults reading below the fifth grade level will result in dramatically improved reading scores in a twenty week period is based on a field test of an earlier version of the PALS program with twenty-four high school students in two classes of twelve each at Cordozo High School in Washington, D.C. in 1983. The test used was the California Test of Basic Skills-Results level 4, Form T for the pre-test and Form S for the post-test. "The mean difference in the pre and post-test data showed an average growth of 28.7 months in reading ability in the four month test period." (PALS Teacher's Manual, First Edition, June 1987, p. E-3. All subsequent references are to this edition.) The cost for PALS hardware, software, and other equipment to accommodate sixteen students, not including overhead and personnel costs, is approximately sixty thousand dollars.

APPLICATION OF PALS AT TWO PROGRAM SITES

Program 1: The North Central Correctional Institute, Gardner, Massachusetts

The North Central Correctional Institute located in Gardner, Massachusetts is a medium security prison housing seven hundred twenty men. NCCI is a prison with particularly high regard for education. It is one of ten prisons in Massachusetts to house its own school, complete with principal. It offers many courses to inmates, including adult basic education classes; pre-GED and GED preparation classes; pre-college English and math; Associate Degree courses; B.A. courses; vocational courses in six areas; a small business management course; a special education class; ESL classes and short courses conducted by inmates on topics like stress, health and nutrition and basic Spanish. The greatest educational need, however, is for ABE and GED preparation. Sixty-five to seventy percent of the inmates test at below a twelfth grade reading level. The prison receives approximately two thousand inmates annually, twenty-seven percent of whom test below the fifth grade level.

Inmates are encouraged to enroll in an educational program and forty percent of the inmates participate in an educational program per day. There is institutional incentive to participate in an educational program. An inmate gets one half day of "good time" for every eight hours he spends in class, up to a total of two and half days of "good time" per month. This means that over time an inmate can significantly reduce his sentence through making the commitment to learn. The PALS program is sponsored by the prison library and this distinguishes it from other educational programs which are sponsored through the prison school. The PALS classroom is located across the hall from the Librarian's office and there is easy and frequent communication between library and PALS staff and others associated with the two rooms. The educationally supportive environment of this prison, the documented basic education needs of inmates and the support of library staff made NCCI an ideal site for a pilot PALS program.

There are four broad categories of reasons which account for the comparative success PALS has enjoyed at NCCI. They are: 1.) the ways in which PALS staff have tailored PALS to the "culture" of the prison; 2.) the compatibility of PALS with the structure of prison life; 3.) the particular organizational and curricular modifications made by the PALS NCCI teacher-manager and the tutor; and 4.) the educational training and orientation of the PALS NCCI teacher-manager, as well as the tutor's first-hand knowledge of prison life and his computer expertise.

1.) A prison is a closed environment with distinct rules which govern the way people behave toward one another. Definitions of status, power, authority, freedom, and privacy are all relative to prison culture and do not necessarily mean the same as they do "on the streets", the inmate's term for life outside prison. The success of PALS in the prison setting depends on how well the teacher-manager integrates the prescribed procedures for PALS into prison

culture. IBM did not set out guidelines for this integration, rather the teacher-manager with the librarian and the PALS tutor worked out the lines of integration on the basis of their understanding of the rules of the social system in which they operate and the real, experienced needs of the inmates with limited basic skills. Specifically this means that:

- PALS is not advertised as a literacy program but as a "reading lab" with computers. The stigma which attaches to a literacy program or even a reading and writing program in the prison setting is very great and would deter inmates from enrolling in it. On the other hand, the ability to work with a computer is highly regarded. It identifies the learner as someone smart enough to learn how to work a computer and therefore bestows status. As someone smilingly said, "We all know that if you can run a computer you're practically an engineer." It also means that you're "not a dummy." Therefore, recruitment for the PALS reading lab never mentions illiteracy. While these issues are valid for other kinds of literacy programs as well-- for example, some successful workplace literacy programs advertise themselves as "in-service training"-- they are especially meaningful in the total environment of the prison. If one is labelled a dummy here, one can never escape the label. One does not return home at the end of the day from prison the way one returns home from work.

- Status in the prison setting is also determined by the type of crime an inmate committed. In the prison pecking order, for example, a felon might not initiate a friendship with a rapist. PALS pairs learners at the InfoWindow for ten weeks and expects the pair to develop a mutually supportive relationship. Recruitment and screening for PALS in the prison setting must stack the odds for cooperation by pairing partners with socially compatible criminal records. Race and ethnicity also determine who will be willing to pair off at the InfoWindow. The teacher-manager was sensitive to these dynamics and, on the basis of their reading scores, selected two Hispanic men, two white men and four Black men for one PALS cycle, with awareness of the potential compatibility or incompatibility of their criminal histories.

2.) Absence and deprivation characterize so much of prison life that the adage "something is better than nothing" takes on new meaning in this environment. Prison life is tedious and inmates will enroll in educational programs to relieve the monotony as well as to collect "good time". PALS offers a nicely paced program of 20 weeks with a commitment of only an hour a day and the promise of learning a useful skill, like word processing or typing and knowledge of computers. So there is a sync between the availability and structure of PALS and the inmates needs.

Something is made of having to learn a "girl's skill", i.e. typing, and inmates will complain about cramped fingers and how their hands just don't fit the keys. But in the end, struggling at a real typewriter "beats sitting by myself in my cell pretending I've got a machine in front of me." Inmates enrolled in PALS complain that the story of the invention of the alphabet is juvenile and that they would prefer something "more modern", "maybe about space," but these kinds of complaints do not necessarily interfere with attendance. Where else will an

inmate go? There is no other writing program down the street that is actively recruiting inmates with a more modern story. The prison population is the proverbial captive audience.

The public nature of life in a prison where one's movements are under constant surveillance also makes the "privacy" of the personal computer disc and personal writing extremely attractive. An inmate is free to write what he wants on his disc. The poignancy of this small freedom helps the outsider to understand how the appeal of PALS in the prison setting differs from the appeal of PALS "on the streets."

3.) The NCCI PALS program made significant and far reaching modifications in PALS program design. NCCI PALS is a "half-lab" and enrolls only eight learners per cycle and employs two staff. Thus the learner/staff ratio is 4::1. The teacher-manager, a warm, mature woman with a M.A. in Speech Therapy, is the primary staff employed to run the PALS lab. The other staff person is the tutor, a twenty-three year veteran of the prison system, who received his B.A. in Education while in prison, who knows a lot about computers and who commands the respect of the inmates. Both said that PALS would be unlikely to succeed as well as it does now if they doubled enrollment to the full complement of the PALS lab--a total of sixteen learners-- and therefore increased the student/staff ratio. Eight learners keep both staff fully engaged. This was especially true in the first PALS cycle when they were working out the kinks of the program and continues to be true.

Furthermore, the teacher-manager keeps the reading lab open all afternoon (after morning classes) and inmates are welcome to come and work on the machines at their own pace and on their own time. Priority is given to PALS enrollees. The increase in grade level which the teacher-manager documentec in the first and second PALS cycle may be attributed to the extra time which learners put in at the monitor. It is difficult to calculate the average extra time a learner might spend at the word processor, typewriter or on another IBM compatible program but, even if it is as little as four extra hours per week, PALS' time is almost doubled. As mentioned above, socializing in the lab at the keyboard station is preferable to sitting alone in a cell. The teacher-manager estimates that less than half of the PALS learners come into the lab on their own time. PALS learners may be enrolled in other courses, which may also influence the PALS test results.

Inmates often have immediate and compelling reasons to learn to write and read. They are motivated to learn to write and read better quickly so they can correspond with their families, lawyers and parole boards and with the judges presiding over their cases. Thus the extra time spent spent at the InfoWindow not only redeems the boredom of the daily prison regiment but restores a sense of some control over one's fate in the criminal justice system. While employment forms and resumes remain a part of the NCCI PALS curriculum, learners are less motivated to learn basic skills in the service of long term employment than in the service of short term self interest and life-negotiation. Their own goals are hook and anchor in the learning process.

4.) The teacher-manager's training in speech therapy and her expertise with the sounds of the alphabet help enormously with her implementation of PALS. She has both a natural and trained affinity with the phonemic approach to teaching reading and writing. She has therefore been able to work with the PALS curriculum and augment it in its own terms. There are five specific things which she has done to augment the curriculum which have an impact on what and how the learners learn.

- First, she amended the PALS phonemic chart with new sounds, spelling and pronunciation which her learners have particular trouble with. (See Appendix B.)

- Second, she designed supplementary work sheets for practice of the basic sounds identified in the PALS phonemic chart. (See Appendix C.)

- Third, she taped the entire "Type It" instruction booklet on audio cassettes so learners can listen to the instructions as well as read them, thereby extending the sound/read approach to the typing program. Learners can take the tapes out over the weekend and continue their lessons while the lab is closed.

- Fourth, she developed a curriculum for the writing process, PALS phase three, based on survival skills including ordering, filling out job applications, writing a bio-sketch/resume, preparing for the driver's test, subscribing to magazines and writing letters.

- Fifth, she improved the Teacher's Manual by matching disc numbers with picture numbers and with the letters, words and sounds used in those discs and pictures. This allows her to track individual learning patterns with relative ease and to quickly identify the sounds a learner is working on when the disc or picture is the only referent.

There is no doubt that the success of PALS at NCCI is largely due to the talent and flexibility of the teacher-manager. But despite her ability to work with the PALS program, there are some things which a teacher who is an outsider to the prison system and a woman cannot know about the experiences of male inmates in a literacy class. She is not privy either to the inner lives of the learners or to the circumstances which define relationships outside the classroom. Nor is the teacher-manager a computer/machine expert. The tutor's knowledge of the prison system, of the inmates and their experiences, and of computers, is a cornerstone of the success of PALS at NCCI. He is the link between life outside the classroom and life inside the classroom. He is a role model par excellence, demonstrating first hand the benefits of committing oneself to education and rehabilitation. His open attitude toward learning coupled with his patience make him an indispensable part of the NCCI PALS program. In addition, he maintains the PALS "physical plant" which is not a small task. Machines break; programs snag. If one had to call IBM every time a technical problem arose, the amount of down time would interfere with the learning process. Having someone on hand who understands computers turns

a potential crisis into a learning experience. Together, the teacher-manager and tutor are an essential staffing pair.

Limitations of PALS at NCCI

The modified PALS program serves the prison population well but staff have some reservations about aspects of the program. NCCI teaching staff foresee problems with PALS for learners who have virtually no reading skills. Although PALS is sold as a progam for all learners reading below the fifth grade level, NCCI staff suggest that it would be harder to use PALS with learners reading at the first grade level or below. In NCCI PALS Cycle II a dyslexic inmate who tested at the 1.8 grade level was accepted into the class. Teachers saw him struggle daily for long hours (he spent virtually all his afternoons in the reading lab) and he eventually raised his reading score to 4.8, measured by the Wide Range Achievement Test (WRAT). If he had not had the option to work four or more hours a day he could not have progressed the way he did.

Teaching staff also has reservations about the youth oriented "Story of the Alphabet" and about phonemic spelling as an interim goal. Inmates inevitably want to know right away how to spell a word correctly. Spelling correctly is associated with being an adult and phonemic spelling is considered childish--an association to be avoided at all cost. Consequently, teaching staff provide correct spelling of words as requested and advise learners to be patient with the story. These strategies help learners get the most out of PALS without becoming disenchanted.

Other factors also constrain the success of PALS. Despite the supportive learning environment in the prison, there is a "pervasive inmate attitude that definitely discourages inmates from attending school". The stigma of admitting illiteracy often prevents inmates from admitting their need for skills development. The factor of newness of PALS at the current time makes recruitment more difficult than if teachers were presenting a tried and true program that many inmates trusted. Security regulations can limit the times when classes are scheduled. And inmates can be transferred to another prison with little warning. (NCCI PALS Final Report, September 30, 1989, p. 4)

Outcomes/Future Directions

While lack of discipline and motivation, lack of self esteem, and being isolated for disciplinary reasons can interfere with attendance in the PALS prison program, staff do observe an increase in discipline, motivation, self esteem and overall good behavior on account of enrollment in PALS.

Program statistics on enrollment, retention and improvement include:

- As of December 1989,16 inmates who enrolled in October in two separate PALS classes of 8 each were still attending classes.

• Of 8 inmates enrolled in Cycle I, 4 completed the program. Their grade reading level increase, measured by the WRAT, is as follows:

Pre-class reading level		Post class reading level	Grade improvement
Learner A	5.2	7.2	+2.0
Learner B	2.4	5.0	+2.6
Learner C	2.8	4.2	+1.4
Learner D	3.2	5.3	+2.1

Of 7 inmates enrolled in Cycle II, only 2 completed the program. Two of the five inmates who did not complete Cycle II were transferred to another prison. Their grade reading level increase, measured by the WRAT, is as follows:

Pre-class reading level		Post class reading level	Grade improvement
Learner A	1.8	4.8	+3.0
Learner B	4.0	7.0	+3.0

(The NCCI PALS Program Competencies Evaluation is included in Appendix D.) There is general agreement among library, prison, and PALS staff that the program has been successful and should be continued. The NCCI PALS program has ironed out its initial snags, adapted and expanded the curriculum and program procedures to the needs of the prison population, and is on its way to become a trusted program that will help inmates admit their need for basic skills training. PALS staff and learners have grown accustomed to the hardware and software of their "reading lab", adapt them well to the prison setting, and believe they can continue to use them well despite the limitations documented in this evaluation.

Program 2: Brightwood Branch Library, Springfield, Massachusetts

The Board of Library Commissioners considered the Brightwood Branch Library of the Springfield, Massachusetts City Library System an ideal site for a pilot PALS program for several reasons. The library had the space to house the program. The library is located in the largely Hispanic North End neighborhood of Springfield where the need for English language literacy classes is great. The library is accessible by car and bus from other areas of the city where the need for adult literacy classes is also significant. The library is handicap accessible. Library staff were very interested and eager to participate in the pilot literacy effort, so long as it did not tax an already full work load.

While they were sympathetic to the need for a literacy program in their community and willing to commit library resources to establish that program, Brightwood library staff had no experience in adult education or in the design and implementation of an adult literacy program. The appeal of PALS in these circumstances is understandable. It is a self contained system installed by IBM experts and maintained by the teacher-manager with the help of IBM trainers.

With PALS the initial investment in hardware and software is substantial, but administrative costs are held to a minimum and library staff are not required to accommodate large increases in personnel-- for example, volunteer teachers travelling to and from the library/classroom space. Furthermore, the computer based system offers a modern alternative to the traditional adult education classroom model which often reminds adult students of the worst experiences they had in school as children. Why not be on the cutting edge?

Brightwood library staff hired two graduate students from the University of Massachusetts at Amherst School of Education with specialities in adult education and the teaching of reading and writing to manage PALS. Brightwood teachers offered its first PALS cycle in October of 1987. But the first full cycle of PALS at Brightwood was essentially the last. Brightwood teachers offered PALS as an option in Cycles II and III but no learners chose to use the interactive system. Why this happened is the key to the application of PALS at Brightwood.

After the completion of Cycle I, teachers rapidly shifted their program focus away from PALS' computer-based phonemic learning and toward a "whole language", group oriented, reading and writing workshop model. Brightwood teachers call their new program Read/Write/Now. Read/Write/Now grew out of the teachers' experiences of the deficiencies of PALS as well as out of their own training, research, and experience in adult literacy education. (Read/Write/Now can be used as an adjunct curriculum to PALS. See Appendix E.)

The problems which Brightwood teachers encountered with PALS include theoretical and practical problems with PALS itself and the ways in which these problems were or were not addressed by IBM trainers and executives. Many of these problems are described in a letter to the IBM Project Manager for Literacy from the Brightwood PALS Program Manager in June 1988. The problems with PALS as presented by Brightwood teachers and library staff are summarized below. Each of the problems is finally articulated as a question, consistent with the querying stance Brightwood teachers and staff maintained with IBM PALS representatives.

1.) PALS is designed for learners to complete the program once in the prescribed twenty week cycle. There is one story, one set of workbook exercises, one cycle's worth of curriculum. What was the Brightwood program to do with learners who had not reached all of their literacy goals after twenty weeks of PALS? Just repeat the program exactly as it had been given the first time?

2.) People learn to read using many strategies, of which phonics is only one. PALS' exclusive pedagogical emphasis on phonemic spelling and reading discounts much of the recent psycholinguistic research on acquisition of reading and writing skills, and unnecessarily limits the options available to teachers and learners alike. The reading strategies of using prediction, syntactic and semantic knowledge, prior knowledge of the subject, and contextual cues can be used in helping learners gain meaning from print.

Consistent with this "whole language" approach, "graphophonemic cues is one of the many strategies addressed in individual and group teaching, and is presented to students as one among many tools to use to make reading meaningful." (Read/Write/Now, Quarterly Report to the Massachusetts Board of Library Commissioners, July 5, 1989) Why doesn't a technically sophisticated system like PALS incorporate and build on these other proven teaching strategies?

3.) PALS does not encourage the understanding of the relationship of personal goals to skills development. Brightwood teachers understand reading and writing as meaning based processes. Skills acquisition is enhanced by linking meaning and purpose with the learning activity. The PALS curriculum as presented in the Teacher's Manual and by IBM trainers does not present reading and writing as fundamentally meaning based processes.

PALS assumes a commonality of purpose among adult learners who are learning to read and write and implies that that purpose is ultimately to achieve or enhance employment. In fact, while some learners enter an adult literacy program with the purpose of achieving or enhancing employment, many others do not. Adult students are often motivated to improve their skills in response to the demands of complicated adult lives. For example, students enter the Brightwood program in order to help children with homework, to better negotiate health or school systems, or to take a driver's test.

While many students are interested in learning to touch type as part of their literacy class, others are not. While learning to type and general computer skills can assist learning to read, and these skills are potentially employment-related, they should be a freely chosen, optional activities. Why should an adult literacy program (which is not a job training progam) define the purpose of learning for mature adults as employment related, especially when the integration of individual purpose for enrolling in a literacy program facilitates the learning process?

4.) While PALS does encourage pairs of learners to form supportive, working relationships at the InfoWindow, there is no other other emphasis in the PALS curriculum on developing relationships among group members or developing a sense of group identity or purpose. In a literacy program learners "will be confronting an issue that has dominated their lives, isolated and disempowered them." (Brightwood Program Statement on the Concept of 'Participant-Centered' Environment) Developing group identity and purpose will help learners understand the causes of illiteracy (and not just personalize them), will break down isolation, provide an arena in which to discuss the changes that inevitably occur in family, work and social life as new skills are developed, develop a social support network which can function outside of and beyond the classroom, and continue to build the self esteem which mastery of language at the monitor initiates. Teachers want their program to be "a self-esteem engine." Developing group cohesiveness, a vital part of the engine, does not happen spontaneously simply because group members are enrolled in the same PALS cycle, especially when class time is limited to one hour per day and highly

structured. Why doesn't PALS continue to value and structure social "interactivity" beyond the InfoWindow pair?

5.) The Teacher's Manual identifies learning to read, write and type as the broad PALS program goals but there are no specific learning objectives given for the one hundred hour program. How are teachers to understand what the learners are learning, or assess learner progress (or lack of it), on a unit by unit basis if specific learning objectives are not described?

6.) The curriculum for phase three is very limited. As correspondence from the Brightwood Program Manager to IBM states: "PALS promotes itself as a complete curriculum...Yet, aside from general guidelines...describing the writing process approach and the mandate to 'engage students in personal writing,' there is little to go on." The first task for the learner in phase three is to draft a bio-sketch according to the six stages of the writing process: prewriting, drafting, peer review, revising, editing, and publishing. After this, with some attention paid to self editing, spelling correctly, and learning how to use a word processor, the student moves into "advanced writing". Vital practice #17 directs the teacher/manager to "encourage advanced writing beyond the bio-sketch." One and a half pages of instruction then suggest that either the learner will be excited enough about writing to know what he or she wants to write about in a fiction or non-fiction format, or that the teacher might have to "refer to previous compositions and make expansion comments" to help focus the student. The instructions are absolute on one final point: "Under no circumstances should standard story starters be used. Students' writing is to be highly individualized." (Teacher's Manual, p. 8-14.)

On the one hand, many adult educators can understand the intuitive truth in the following statement: "...once the electrifying process of knowing they can write and type anything they can think and say occurs, students energize themselves". (Teacher's Manual, p. 8-14.) On the other hand, many adult educators know from experience that they cannot expect fictional or non-fictional forays into the life of the mind-- using either phonemic or standard spelling-- to occur spontaneously without the most expert guidance. Stories of the contortions which experienced writers submit to in order to "get writing" are legion. Not only does the new adult writer have to face the psychic blocks which many people have about valuing ideas and getting them down on paper, the new adult writer may also find the mechanical aspects of writing equally forbidding, especially at the beginning. New adult writers need additional guidance and support to take the first steps to get their thoughts on paper.

It is curious that compromising the individuality of the learner through directive exercises becomes a concern of PALS in phase three. Many professional teachers of writing who are writers themselves-- including luminaries like the poet Robert Lowell and modern fiction masters Raymond Carver and John Gardner-- set their students exercises in order to help them access otherwise unreachable, and therefore unscriptable, parts of their most individual psyches. Why are the detailed instructions which guide PALS' phases one and two watered down to faulty truisms in the writing process? And what are teachers to

do in the absence of a real curriculum, especially when a real curriculum is seen to be compromising the individuality of the learner? With support from administrative library staff and with additional financial support from the Massachusetts Board of Library Commissioners, Brightwood teachers developed their own curriculum for the writing process. This curriculum became "Read/Write/Now.

7.) IBM recommended the Test of Adult Basic Education (TABE) for use as a norm-referenced assessment tool. Brightwood teachers objected to the use of the TABE for two reasons. First, the TABE is not appropriate or statistically valid for those students who read below a 2.6 grade level. (This was corroborated in conversation with the TABE developers although IBM sells PALS as appropriate for anyone reading under a 5.O grade level.)) As a result, half of the learners in Cycle I went without a pre/post-test with a norm referenced assessment. But Brightwood teachers' concerns about the use of norm referenced tests goes further. The second reason for objecting to the use of the TABE as a valid measurement harkens back to their concern that learners' individual purposes for learning to read and write be integrated into the learning process. If individual purposes for learning to read and write are integrated into the learning process, then gauging the extent to which these goals have been achieved is central to the assessment process. Why use a norm referenced test that is not suited to your population? Why give a norm referenced test a key position in your program's overall assessment strategy if your program's goals are not formulated in the test's terms?

Teachers also criticized the "Functional Literacy Test", a pre and post-test designed especially for PALS learners, on several counts. A main criticism focused on the readability of the test for PALS learners. According to an informal estimate by the Brightwood Program Manager using the Frye Readability Formula, the range of reading samples range from 6th or 7th grade to 12.5 grade level. How can this test be used if average learners begin the program well below the 5th grade reading level, and might not progress above the 5th grade reading level, and are therefore unable to read it?

8.)Brightwood teachers assert that PALS provides no guidelines for addressing the varied needs of different kinds of learners and adapting the curriculum accordingly. Experience indicates that learners who enter PALS reading below a 2nd grade level have very different needs than those reading at the 4th or 5th grade level. Similarly, ESL learners have special needs. Why isn't PALS prepared to account for these differences and provide appropriate curriculum?

9.) Finally, Brightwood teachers questioned the list of suggested books for the class lending library. They judged these books to be targeted to adolescents and not to adults, who might find the books uninteresting at best and insulting at worst. Does PALS treat adults with minimal basic skills as adolescents simply because their skills need improvement?

According to Brightwood staff, IBM answered the Brightwood letter unsatisfactorily. The IBM letter contained answers similar to those which IBM

trainers had given to the staff's questions during Brightwood's first PALS cycle and afterwards. Brightwood staff consistently stated that trainers responded like salespeople trained to know a product well enough to sell it, but not like educators engaging their critical faculties on the common task of improving an adult education curriculum. Although the IBM letter announces IBM's intention to conduct a series of seminars designed to address some of the concerns put forward in the Brightwood letter, the letter does not fully acknowledge the depth of concern that informed the Brightwood letter except to say: "We really appreciate your input and will continue to address the needs you've communicated because your total satisfaction is very important to IBM." By the time this tedious correspondence was exchanged, Brightwood teachers were well on their way to refining the Read/Write/Now program and defining their program strategies in their own terms, not in response to PALS deficiencies. Thus the communication documents the differences and disagreements which plagued the Brightwood/IBM-PALS relationship but does not fruitfully develop that relationship.

Read/Write/Now

Read/Write/Now is "a learner-centered literacy program for adults with limited reading and writing skills, which teaches reading and writing as mutually reinforcing and essential aspects of literacy." The program is meaning based and starts with and builds on learners' individual goals for enrolling in a literacy program. The program is also "whole language" based and uses phonics as one strategy among others (listed above) to teach reading and writing. Reading activities include: language experiences stories; word recognition skills development and reinforcement; oral and silent reading for pleasure; group reading and discussions; and reading strategy lessons and reinforcement as part of reading groups and conferences.

The Read/Write/Now writing process elaborates the writing process as it is summarized in PALS but builds extensively on the work of Donald Murray and others who are writers who teach writing. Following Donald Murray's prescription, the writing process is seen as a process of self correction. Learners learn to separate content and form and to value editing as central to good writing. Thus they begin to understand that writing is performed "by humans, not Gods". Eventually, meaning and the desire to tell a story drive the need to continue to learn to write and read. Teachers work with learners individually using writing exercises and other methods to help them gain access to their stories.

Learners write profusely-- evidenced by the stacks of professional looking publications which are largely autobiographical in nature and which are centrally displayed and available for reading in the classroom. The titles of learners' books express the excitement of having a story to tell and the skill and will to tell it. Examples of book titles include: My Strength Through Hard Times; My Life in Canada and the U.S.; A One Year Roller Coaster Ride: The Twenty Eighth Year of My Life; and Jolanta's Story. In addition to learners' books,

Read/Write/Now learners publish a newsletter and instructional materials, like "Tina and the Learner's Permit: A Story with Some Ideas About How to Get a Learner's Permit."

Outcomes/Future Directions

The following statistics about the Read/Write /Now Program for Cycle IV, April, May and June 1989, describe the numbers and types of learners enrolled.

- There was a total of 31 learners enrolled in Cycle IV, 17 women and 14 men. Eleven were Black; 4 Hispanic; 9 white, U.S. born, of various ethnicities; and 7 white immigrants to the U.S., of various ethnicities.

- Twelve of the learners have English as a second language. First languages represented include Spanish, Italian, French Canadian, Polish, Lebanese, Farsi, and Greek. The youngest learner was in his/her mid-20's; the oldest in his/her late 50's.

- The retention rate in Cycle IV was 79%. This means that 31 of the original 39 learners enrolled completed the cycle. Reasons for leaving the program included serious illness for 2 learners, transportation, needing to work or a change in work schedule for 3 learners, and feeling overloaded with family or religious commitments for 2 other learners. The number of learners returning from Cycle II was 21 and the number attending Cycle V was 20.

- There were 14 learners employed full or part time; 5 receiving AFDC; 9 receiving benefits due to work related injury or plant closing; 2 receiving benefits due to permanent disability, and 1 learner was supported by family member or other.

- Of the 31 learners who finished Cycle IV, 17 had tried other adult basic education courses previous to coming to Read/Write/Now. The most commonly cited reason for not staying at whichever program they attended was not enough attention from the teachers.

Learner comments about Read/Write/Now were generally positive. There was only one learner in Cycle IV who had been enrolled since the original PALS Cycle 1. The evaluator was therefore able to question a learner who had not chosen to continue PALS about her initial instruction with the interactive system. She said that she learned about sounds and how sounds go together and that was very good. She liked the story of the invention of the alphabet. She loves to write and read now and prefers to do that to working on a computer. This one case cannot be generalized. Other students in the class like using the computers very much and, in general, Read/Write/Now is very pro-computer.

While methods of learner assessment in the Read/Write/Now program include the use of the standardized Slosson Oral Reading Test and the READ, developed by Literacy Volunteers of America, teachers look to other methods of

learner assessment for pre and post cycle/program data that will both help the learner and inform program development. These methods include the development of a learning contract for each learner which is evaluated at the end of each cycle, and other open-ended formative and summative evaluation questions answered by learners at the end of each cycle (See Appendix D for examples of Brightwood assessment forms.)

The following chart documents the pre and post-test scores for Brightwood PALS Cycle I on the Slosson Oral Reading Test and on the READ. Incomplete test data for some learners is either an indication of the tests' inability to measure learners' very low skills or of the inappropriateness of these measures with learners whose skills are somewhat higher than the average. Decreases in post-test scores raise questions about what these tests measure and the effect of testing conditions, and learner frame of mind on test results. Where possible, some explanation is given for the tests' inability to measure a learner's skill level. Numbers refer to grade level increases, or to the range of increase, except in the category "Sight Words" which refers to the number of words identified correctly out of a list of forty words.

	SLOSSSON	**READ**			
		Sight Words	Word Recognition	Reading Comprehension	Listening
Learner 1 pre	1.5	13/40	1.5	2.6-3.0	5.1-5.5
post	3.1	31/40	1.6-2.0	2.1-2.5	5.1-5.5
Increase	1.6				
Learner 2 pre	2.9	-	-	-	-
post	3.3	-	-	-	-
Increase	0.4				
Learner 3 pre	considered a non-reader; PALS did not instruct; over time made progress				
post					
Increase	not applicable				
Learner 4 pre	3.2	36/40	4.1-4.5	4.1-4.5	5.5
post	3.9	38/40	4.6-5.0	5.1-5.5	5.5
Increase	0.7				
Learner 5 pre	1.2	13/40 testing situation was noisy	non-reader	1.5	5.5
post	1.0	10/40	1.6-2.0	1.5	5.5
Decrease	0.2				

	SLOSSSON	READ			
		Sight Words	Word Recognition	Reading Comprehension	Listening
	pre 0.6	9/40	non-reader	1.5	5.5
Learner 6					
	post 1.0	16/40		1.6-2.0	5.5
	Increase 0.4	big jump, hard to measure at this level			
	pre 7.5	9/40	5.5	5.5	5.5
Learner 7	ESL/could decode words she did not know the meaning of				
	post 9-12		wrote autobiography		
	Increase 1.5-4.5				
	pre 0.7	9/40	non-reader	1.5	1.5
Learner 8	had personal problems				
	post 0.8	7/40	1.6-2.0	1.5	2.1-2.5
	Increase 0.1				
	pre 5.7	38/40	5.1-5.5	5.1-5.5	5.1-5.5
Learner 9					
	post 8.0	ABLE used; results unavailable			
	Increase 2.3				
	pre 2.1	34/40	2.5-4.0	2.5-4.0	5.5
Learner 10					
	post 2.8	29/40	2.1-2.5	3.1-3.5	5.5
	Increase 0.7				
	pre 1.4	31/40	2.1-2.5	2.2-2.5	5.5
Learner 11					
	post 2.2	reluctant to	2.6-3.0	3.1-3.5	5.1-5.5
	Increase 0.8	test			
	pre 3.2		2.6-3.0	2.6-3.0	5.1-5.5
Learner 12					
	post 4.0	37/40	3.6-4.0	4.1-4.5	5.1-5.5
	Increase 0.8				

Brightwood staff are not now, nor will they ever be, in a position to know what results they could have achieved with continued use of PALS. The quick, one-cycle decision to develop a more broadly based reading and writing program precludes the option to compare PALS results with the results of Read/Write/Now over time. It is also probably the case that learners who were told that PALS was an option in Cycles II and III intuited the teacher bias against PALS and toward the "whole language" Read/Write/Now method and "chose" the program their teachers valued more highly. Thus, the fact that no learners signed up for PALS in Cycles II and III cannot be interpreted wholly as learner dissatisfaction with PALS. Nonetheless, the numbers of learners enrolled in Read/Write/Now, the

enrollment carry-over from cycle to cycle, and that learners are achieving their literacy goals testify to the success of the Read/Write/Now program.

CONCLUSIONS

The purpose of this evaluation is to determine why PALS achieves a measure of success in one program setting and not another. Therefore, the conclusions of this evaluation will address the organizational and pedagogical factors at each site which encouraged or discouraged the use of PALS. However, the evaluation cannot assess the application of PALS without assessing PALS itself as a system for teaching adult literacy. The conclusions of this evaluation are therefore divided into two sections: PALS in Program Context and PALS as a System for Teaching Adult Literacy.

I. PALS in Program Context

PALS' success or lack of success in the NCCI and Brightwood programs is relative to the institutional program setting in which it was applied and to the pedagogical principles of the teaching staff.

- The sync between the PALS "reading lab" format and the structure of prison life, the training of the NCCI teacher-manger as a speech therapist, and her fundamental satisfaction with PALS' phonemic approach to teaching adult literacy insured the relative success of PALS at NCCI. Brightwood staff's fundamental dissatisfaction with PALS' phonemic approach and the greater diversity of the learner population in the community library setting, i.e. many learners with very low level skills and many with ESL needs, coupled with IBM's inability and/ or unwillingness to sufficiently defend its theory and practice, overrode whatever usefulness the videodisc system had to offer them.

  But it must be noted that NCCI PALS made major adjustments to PALS that improved and expanded its curriculum and made it socially and educationally viable in the prison setting. In neither program was PALS accepted uncritically or without modification. NCCI has a staff-learner ratio of 1::4. One of the staff, the teacher-manager, is well trained in phonetics; the tutor is well trained in the social dynamics of the prison. The teacher-manager supplemented the PALS curriculum in several significant ways (as documented above) and learners were allowed to spend virtually as much time as they wanted in the reading lab, continually exercising their skills at the PALS work stations. Even though PALS is comparatively successful at NCCI, success was achieved because program staff experimented with the application of PALS in the prison setting, not because IBM provided a fully implementable program for literacy education in the prison setting. The question of how much learner progress is the result of PALS itself, the changes in PALS made by the teacher-manager, the result of extra time at the

work stations or enrollment in other education programs remains to be answered.

II. PALS as a System for Teaching Adult Literacy

PALS is one example of the "quick fix" computer assisted instructional programs which will continue to flood the expanding adult literacy market. Adolescent in narrative format limited and flawed in its pedagogical base and over advertised to a complete program for community based literacy needs, PALS is not the answer to the problem of adult literacy that it purports to be. It may be used as an adjunct to an already complete adult literacy curriculum, but it is an extraordinarily expensive "add-on" for teaching phonics and computer competency. If PALS is chosen as the core of an adult literacy program, staff should be prepared to significantly adapt, expand and correct parts of the interactive program, despite the changes IBM is currently making in the program. (as noted below)

- PALS is an adolescent program dressed up for adults. PALS grew out of John Henry Martin's work with teaching children how to read and write. ("Writing to Read", his children's program, is also marketed by IBM and follows the same basic principles as PALS.) "The original PALS program used among other things, six 32 page comic-style books which gave a fictional account of the development of the alphabet. The main characters in these stories were adolescents from various ethnic backgrounds." (Teacher's Manual, p. E-2,) The current story of the development of the alphabet has similar characters and the PALS reading list focuses on adolescent literature. An expanded evaluation of PALS might chronicle the development and marketing of the interactive program for adults through its developmental stages at IBM. That data would shed light on the style/format and pedagogical criticisms raised in this report. The current evaluation can simply comment on the assumption in the program and in the Teacher's Manual that PALS is suitable for adults because adults who cannot read well have the sensibilities of adolescents. The Teacher's Manual implies that adult learners are beginning thinkers. "Therefore one of the central thrusts of PALS is to enable this illiterate population to understand that they can learn by thinking-- a process from which they have felt themselves to be excluded for many years." (Teacher's Manual, p. 3-7) A fundamental principle of successful adult literacy programs is that beginning writers and readers are not beginning thinkers. Rather adults with limited basic skills have a wealth of life experience limited only by the adult's ability to communicate the breadth of experience in written form. It is possible and desirable to develop a narrative that is meaningful to adults.

- PALS is not the "one answer" program that it purports to be.

-- In light of current research on how people learn to read using many strategies, including but not limited to phonics, it would be wrong to accept or promote PALS as a complete system of adult literacy education. Furthermore, some adult educators argue the effectiveness of phonemic

spelling with adults over time but PALS is just a twenty week, one hundred hour program which does not provide full instructions on how to transition learners from phonemic to standard spelling. Even in its own terms, PALS is limited.

--There are errors in the phonemic chart. The corrections and additions which the NCCI teacher-manager made in the phonemic chart suggest that the chart contains a range of errors which were beyond the scope of this evaluation to examine. However, the findings of a 1988 PALS review conducted by Elizabeth Harper of Research and Evaluation Associates, Inc., Washington, D.C., documents six substantial errors in the chart. A sample of these errors include: 1.) Students are instructed to use the letters c and k interchangeably but are never told that c and s can have the same sound. A true phonetic alphabet eliminates the letter c entirely so that there is no confusion about the sound represented; 2.) The letter i is the only letter presented as both a capital and lower case letter; no explanation for this is given. Students are, however, expected to capitalize correctly when writing in their work journals; 3.) The pictures used to cue the students are frequently obscure and misleading. For example, a pseudo-classical figure of a man drawing a bow represents h (hunter), a lion's head represents r (roar), and the beak of a bird represents c (crow).

-- The "individualized" aspect of PALS is limited to the amount of time a learner may take to complete the program. No flexibility or adaptation is provided for very low skilled learners, ESL learners, or learners with other special needs (discounting learning disabilities, which PALS admittedly does not deal with.)

-- PALS suggests that the purpose of an adult literacy program is to find or enhance employment. Many adult educators and adult learners accept that enhancing employment options is a legitimate goal for learners in an adult literacy program. However, there are many other goals which learners bring with them into the classroom. If the curriculum, the social interactions between learners and teachers, and the social interactions among learners do not integrate these goals into the learning process, the program works against maximum learning within a limited time frame. Furthermore, the demographics at Brightwood demonstrate that most learners are employed or are temporarily unemployed due to illness or plant closing.

•The question of assessment of learner performance in PALS must be understood in the context of questions surrounding the assessment of adult learner performance through standardized, grade level equivalent and norm-referenced tests in adult literacy programs in general. The January 1990 issue of the Business Council for Effective Literacy Newsletter identifies several concerns regarding the use of standardized tests with adult learners which are relevant to the measurement of PALS "success" by standardized, grade level equivalent and norm-referenced tests. In summary, they are:

1.) It is inappropriate to use reading achievement tests which are normed on children with adults. Adults bring years of prior knowledge and experience to the acquisition of literacy skills, and comparisons with the performance of children are therefore considered to be inappropriate. Test

scores which are grade level equivalents are not useful measures of what adults can do in terms that are contextually meaningful to them, nor do they point to an appropriate instructional program. Grade level equivalent scores can also be humiliating to adults with past school failure and it may be meaningless to tell an adult of any age that s/he reads like a nine year old.
2.) Are the TABE and other standardized literacy tests a true representation of how people read? They are not a true representation because "the questions they pose deal with isolated, decontextualized bits of reading sub-skills such as word recognition, spelling or paragraph comprehension." Questions are multiple choice format, dictating one right answer, and there is no applied use of reading, math or writing.information.
3) Advances in knowledge theory suggest the central role of prior knowledge in understanding or interpreting new data. Most tests exclude prior knowledge.
4.) Standardized tests treat literacy as a neutral mechanical skill unrelated to different communities and cultural and linguistic traditions.

Exactly what value the Slosson, READ and WRAT have for the PALS learners to whom they were administered and what aspects of "progress' they measure are questions worthy of continued debate. This is not to discount the need for standardized measurement of adult learner achievement but rather to call into question the real effectiveness of current tests. Other learner-centered and formative evaluation procedures can be used in lieu of, or in addition to, standardized tests while the broad issues are being resolved.

- Limited field testing of PALS before full marketing is resulting in the need to substantially revise PALS at the same time that it is being sold to/used by programs who paid for what they understood to be a fully developed product. The applicability of the data from the field tests using an earlier version of PALS with high school students (as described in the PALS profile) to an adult population is suspect. On the basis of feedback from PALS teachers working with adults, in the last nine months IBM has made significant revisions in its presentation of:
1.) the role and training of the PALS teacher;
2.) the writing process curriculum;
3.) the extension of the PALS curriculum beyond the twenty week cycle.
These revisions amount to major changes in the way that PALS was presented to the programs described in this evaluation. Therefore, they warrant an explanation.

As described in the PALS profile, the Teacher's Manual stresses that the PALS teacher does not have to be a trained adult educator. It similarly stresses the "elevation" of the teacher from teacher to manager. "Your role is elevated to that of a trained manager...You are in control of sophisticated technology that delivers the instruction...This new role is similar to the status accorded to other professions (for example medicine and engineering) which use technology to elevate the professionalism and decision making capabilities of the practitioners." (Teacher's Manual p. 4-2)

While this may be intended to increase the esteem in which the teacher is held the effect is the opposite. It denigrates teachers and the teaching profession by suggesting that: 1.) anyone can teach; and 2.) the teacher should become more than a teacher-- i.e. a manager-- in order to be held full professional esteem.

An IBM PALS representative recently said that "the teacher is a key ingredient in PALS." Supporting this premise, IBM has completed a videodisc management course for PALS teachers. The course acknowledges that PALS teachers need to be skilled in specific areas of adult literacy education, including the practice of phonemic spelling; curriculum development for the writing process; interviewing and monitoring of students, etc. The management course for teachers parallels many aspects of PALS for adult learners and immerses teachers in the PALS process and format. Teachers work in pairs at an InfoWindow; the technology is interactive; teachers use a work journal, etc. The videodisc training also permits repetition of lessons. Previously, teachers were trained in teacher training sessions. The videodisc training supplements teacher training sessions.

The second version of the Teacher's Manual, not published yet, will also contain more specific instructions for conducting the writing process with students. This represents a reversal of the original premise that teachers should not direct-- or interfere with-- the learner's writing process. The revised writing process is, in fact, a curriculum guide for PALS teachers in PALS phase three, not unlike what Brightwood teachers were looking for when they began working with PALS.

PALS PLUS is an extended curriculum for use "upon completion of 100 hours of PALS."-- or one full twenty week PALS cycle. PALS PLUS brings together IBM basic skills courseware and other InfoWindow products in a package and maps the way for continued use of PALS hardware. PALS PLUS software must be purchased independently from PALS software. The extended curriculum includes basic skills courseware (reading for meaning; reading for information; vocabulary; spelling; parts of speech; combining sentences; punctuation; math.) The InfoWindow products include: employment skills; earth and science; English for industry; work with people; and dress and grooming.

IBM current (and ongoing) revisions of PALS acknowledge some of the limitations of PALS as it was sold to the two programs described in this report. IBM would have done better justice to these programs from the start by acknowledging that significant parts of their interactive program were in development and by inviting them to participate in a field test of their product used with adults.

If IBM has come this far, perhaps it will also look at the research base and improve /rewrite the PALS curriculum to include other ways of helping learners gain meaning from print including the reading strategies of us

prediction, syntactic and semantic knowledge, prior knowledge of the subject, and contextual cues. Interactive technology holds great promise as an educational tool. IBM presumably has the resources to match the technology with the instructional base.

RECOMMENDATIONS

- IBM should review the research base and redesign/improve the PALS curriculum to:
  1.) include an adult oriented narrative;
  2.) include ways of helping learners gain meaning from print in addition to phonics, specifically by using the reading strategies of using prediction, syntactic and semantic knowledge, prior knowledge of the subject, and contextual cues;
  3) incorporate learner's self identified literacy goals into the PALS learning and assessment process; and
  4.) develop peer group relationships among all learners in the learning group as part of the PALS experience.

  Furthermore, IBM should review and revise its assessment procedures and practices in light of current debate in the adult education field about the usefulness of standardized, grade level and norm-referenced tests with adult learners. It should also review its "Functional Literacy Test" for internal consistency and content appropriateness for adult learners in the community and prison settings.

- The Board of Library Commissioners should fund/support other adult literacy programs and continue to fund/support the two pilot programs, both to establish the library's continuing role in delivering adult literacy services and to add to the base of knowledge about the library's role in promoting adult literacy. The Board of Library Commissioners, in concert with NCCI and Brightwood staff, should also explore other computer based instructional programs for use with adults in need of literacy education on PALS hardware. The Board of Library Commissioners has invested in PALS hardware and software and should make the best use of it.

- In order to more fully understand the impact of PALS at NCCI, the Board of Library Commissioners should extend the PALS evaluation to include:
  1.) an analysis of enrollment status of PALS learners in other prison based education programs and the amount of time PALS learners spend in the reading lab;
  2.) further expert study of the limitations of and errors in the phonemic chart;
  3.) further expert study of the role of standardized, grade level equivalent and norm referenced tests in library sponsored adult education programs.

- The Board of Library Commissioners, in concert with NCCI and Brightwood staff and the Massachusetts Bureau of Adult Education, should educate the library and adult education communities about PALS and other instructional computer programs. Concerned agencies should develop a mechanism for sharing what they know with each other and with their counterparts locally and nationally. PALS is just the beginning of the use of computer technology in adult literacy. As First Lady Barbara Bush, the Congress of the United States, the print and electronic media, state and local funders, adult education service providers and adult education entrepreneurs continue to focus national attention on the problem of adult literacy, the adult education market will expand dramatically. Many false product promises will be made. Let the buyer beware.